

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated January 16, 2007, and the interview conducted on April 13, 2007. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-4, 6, 8-18 and 23-34 stand for consideration in this application, wherein claims 5 and 7 are being canceled without prejudice or disclaimer, while claims 1-2 and 4 are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. Claims 19-22 stand withdrawn from consideration in this application. In addition, new claims 33-34 are hereby submitted for consideration.

All amendments to the application are fully supported therein. In particular, support for new claims 33-34 may be found on Figs. 3(c) and 3(d). Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

The First 35 U.S.C. §102(b) or 103(a) rejection

Claims 1-4, 6, 8-18 and 23-32 were rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative under 35 U.S.C. §103(a) as being unpatentable over Sato et al (US 4,734,323). Applicants respectfully traverse this rejection for the reasons set forth below.

According to the M.P.E.P. §2131, a claim is anticipated under 35 U.S.C. §102 (a), (b), and (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

With respect to 35 U.S.C. §103 (a) rejection, the Manual of Patent Examining Procedure (M.P.E.P. §2143) sets forth,

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable

expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both not found in the prior art, not in the applicant's disclosure.

Claim 1

Claim 1 as amended recites that a resin laminate sound insulation board which is a laminated plate, comprises: a foamable resin in a substantially unfoamed state, the forearable resin being capable of changing the substantially unfoamed state to a foamed state by heating at a foaming temperature; a shape-formable hard metal plate; and a non-foamable material laminated between said foamable resin and said hard plate, wherein said foamable resin and said non-foamable material are adhered to each other and said non-foamable material are adhered to said hard plate, wherein the foamable resin in the substantially unfoamed state has a first thickness so as to allow the resin laminate sound insulation board to be shapable, and wherein the foamable resin is configured to have a second thickness in the foamed state so as to enhance rigidity of at least the hard metal plate.

First, a resin laminate sound insulation board recited in claim 1 as amended comprises three elements: a foamable resin which is in a substantially unfoamed state, a shape-formable hard metal plate and a non-foamable material. The resin laminate sound insulation board recited in claim 1 as amended is an assembly of the three elements set forth above. In contrast, Sato merely shows a laminate sheet comprising a sound-proof layer material made of an already foamed rubber and a damping layer and the laminate. The purpose of Sato is to render the surface of a soundproof layer in a laminate sheet irrespective of the uneven configuration of a already formed panel surface of a vehicle (col. 2, lines 19-30). Sato does not show a board comprising the three elements recited in claim 1.

Second, the resin laminate board recited in claim 1 as amended is capable of changing its state from a first state to a second state. In the first state, the foamable resin is in a substantially unfoamed state and has a first thickness. The first thickness of the foamable resin in a unfoamed state can remain thin. Therefore, the total thickness of the board, which is a laminate of the foamable resin, non-foamable material and a shape-formable hard metal plate, can remain thin enough to allow the board to be shapable. Consequently, there is little restriction in the shape of the board to be formed, the place to which the board is to be arranged or the weight of the board. In the second state, the foamable resin can be foamed by heating at a foamable temperature, and therefore, has a second thickness, which is thicker than the first thickness. Consequently, the board gains rigidity of at least the hard metal plate.

In contrast, as set forth above, Sato is directed to a laminate which render the surface of a soundproof layer in a laminate sheet irrespective of the uneven configuration of a already formed panel surface of a vehicle. Sato merely shows in Figs. 6 and 7 that the laminate comprises a sound-proof layer material made of an already foamed rubber and a damping layer and the laminate is placed on an already formed panel surface/plate. Sato does not show that the panel surface/plate is further formed to a desired shape after the laminate is placed on the panel surface/plate. Sato's sound-proof layer is already foamed, and therefore, it would be difficult to further form the panel surface/plate attached to the foamed proof layer to a desired shape, because the foamed sound-proof layer is thick.

Third, one of the elements of a resin laminate sound insulation board recited in claim 1 as amended, the foammable resin is capable of being foamed by heating at a foaming temperature. In contrast, Sato merely shows a sound-proof layer forming material is made of a foamed rubber blend and the foamed rubber is prepared by adding and kneading usual rubber blends and foaming agent to polymer, not heating at a foaming temperature (col. 3, lines 15-16, col. 4., line 64-68) Sato does not show or suggest either explicitly or implicitly that a sound-proof layer forming material is made of a resin which is foamable by heating at a foamable temperature.

Fourth, Sato merely shows that vibration damping layer-forming material is heated. However, the purpose of this heating is to soften the vibration damping layer-forming material and fit the material to the panel surface, not to foam the material (col. 5, lines 53-55). Sato does not show or suggest either explicitly or implicitly the vibration damping layer-forming material is made of a resin which is foamable by heating.

Therefore, Sato does not show every element recited in claim 1. Accordingly, claim 1 is not anticipated by Sato.

Again, Sato's claiming only a reinforcement laminate portion of a foamed rubber and a damping layer indicates that there is no suggestion or motivation to create a resin laminate sound insulation board including the hard metal plate which can be formed to a desired shape. Accordingly, claim 1 is not obvious in view of Sato.

Claim 2

Claim 2 has the substantially same features as those of claim 1. As such, the arguments set forth above are equally applicable here. Claim 1 being allowable, claim 2 must also be allowable.

Claims 3-4, 6, 8-18, 23-32

As to dependent claims 3-4, 6, 8-18, and 23-32, the arguments set forth above with respect to independent claims 1 and 2 are equally applicable here. The base claim being allowable, claims 3-4, 6, 8-18, and 23-32 must also be allowable.

New claims 33-34

Because new claims 33-34 depend from claims 1-2, the arguments set forth above with respect to independent claims 1 and 2 are equally applicable here.

Furthermore, as recited in claims 33-34, the foamable resin is configured to have a shape having a first surface and a second surface in a foamed state, and the second surface is opposite to the first surface and contacting to the non-foamable material, and the first surface has a shape corresponding to the desired shape. Figs. 3(c) and 3(d) illustrate exemplary structures including a foamable resin in an unfoamed state and a foamed state as recited in claims 33-34, respectively. As shown in Fig. 3(c), the board including the hard metal plate 2 and the foamable resin 3a in an unfoamed state is formed to a concaved shape. As shown in Fig. 3(d), the foamable resin 3b in a foamed state does not become flat but has a shape corresponding to a shape of the hard metal plate 2, because the foamable resin has no flowing property. Therefore, a surface of a foamable resin can be attached to any shape of an object such as a side surface or a roof reverse side of a vehicle.

In contrast, Sato clearly states that upon foaming, the soundproof layer-forming material 8 develops some flowing property to make the surface of the soundproof layer flat irrespective of the uneven configuration of the panel surface 1 (col. 5, lines 61-65, Figs. 4-8). This statement implies that the soundproof layer-forming material has flowing property when it is foamed. The soundproof layer-forming material in Sato can attach to only a flat surface and cannot attach to any shape.

In sum, Sato does not show or suggest, either explicitly or implicitly, the features as recited in claim 33-34. Accordingly, claims 33-34 are neither anticipated by nor obvious in view of Sato.

The Second 35 U.S.C. §102(e) or 103(a) rejection

Claims 1-4, 6, 8-18 and 23-32 were rejected under 35 U.S.C. §102(e) as being anticipated by, or in the alternative under 35 U.S.C. §103(a) as being unpatentable over Wycech (US 6,372,334). Applicants respectfully traverse this rejection for the reasons set forth below.

Claim 1

Wycech merely shows a reinforcement laminate comprising a foil backing carrier layer and two already-foamed layers to be placed on an already-formed metal substrate. Wycech, however, does not show or suggest either explicitly or implicitly that the reinforcement laminate is configured to change a state of its any part from a unfoamed state to a foamed state. Clearly Wycech cannot show or suggest that a layer in the substantially unfoamed state has a first thickness so as to allow the assembly of the reinforcement laminate and the metal substrate to be shapable, and the layer is configured to have a second thickness in the foamed state so as to enhance rigidity of at least the hard metal plate. Furthermore, in Wycech, the already foamed layer is attached to a foil or a substrate having an uneven shape. The foamed layer is heated in order to be cured, not to be foamed. Therefore, Wycech does not show every element recited in claim 1. Accordingly, claim 1 is not anticipated by Wycech.

Furthermore, there is no suggestion or motivation in Wycech to modify these features explicitly or implicitly, or in the knowledge generally available to one of ordinary skill in the art at the time the invention was made to embody all the features of the invention as recited in claim 1. Accordingly, claim 1 is not obvious in view of Wycech.

Claim 2

Claim 2 has the substantially same features as those of claim 1. As such, the arguments set forth above are equally applicable here. Claim 1 being allowable, claim 2 must also be allowable.

Claims 3-4, 6, 8-18, 23-32

As to dependent claims 3-4, 6, 8-18, and 23-32, the arguments set forth above with respect to independent claims 1 and 2 are equally applicable here. The base claim being allowable, claims 3-4, 6, 8-18, and 23-32 must also be allowable.

New claims 33-34

Because new claims 33-34 depend from claims 1-2, the arguments set forth above with respect to independent claims 1 and 2 are equally applicable here.

Furthermore, as set forth above, Wycech, however, does not show or suggest either explicitly or implicitly that the reinforcement laminate is configured to change a state of its

any part from a unfoamed state to a foamed state. Therefore, Wycech cannot show or suggest that the foamable resin in a foamed state has a shape corresponding to a shape of a substrate.

In sum, Wycech does not show or suggest, either explicitly or implicitly, the features as recited in claim 33-34. Accordingly, claims 33-34 are neither anticipated by nor obvious in view of Wycech.

Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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